WHAT IS CLAIMED IS:

1. A method for testing a multiplicity of plasma donations to uniquely identify donations having a positive viral indication, in a single PCR testing cycle, the method comprising the steps of:

providing a plurality of plasma donations, wherein a portion of each donation is contained in a tubing segment divided along its length by spaced-apart seals, the tubing segment portions between the seals defining sequential containers, wherein each container contains a plasma sample of said donation;

defining an n-dimensional grid, wherein is an integer, the grid further comprising a multiplicity of internal elements, each element defined by an intersection of the n-dimensions of the grid;

mapping a sample from particular ones of the plurality of plasma donations to a corresponding one of each element of the grid, each sample being defined by a matrix notation X_{rcs}, wherein the subscript of the matrix notation defines the dimensional indices of the grid;

taking aliquots from each sample of each of the plurality of plasma donations, the number of aliquots taken from each sample defined by the number of dimensional indices comprising the grid;

forming subpools from the aliquots of each sample, wherein each subpool comprises an aliquot of all samples in which one dimensional index is fixed;

testing all of the subpools, in a single PCR testing cycle, for a viral indication; and

evaluating the dimensional indicia of each subpool which tested positive in the single PCR testing cycle, in accordance with a reduction by the method of minors, thereby unambiguously identifying a unique element defined by the dimensional indicia of each positive subpool, thus unambiguously identifying a uniquely positive sample.

2.   The method according to claim 1, wherein the n-dimensional grid is at least a 3-dimensional grid.

3.   The method according to claim 2, wherein the grid is a 3-dimensional grid, and wherein each sample is characterized by a matrix element notation identified as X_{rcs}, where the dimensional indicia r, c, and s identify a row, column, and slice of said grid.

4.   The method according to claim 3, wherein three aliquots are taken from each plasma sample of a donation.

5.   The method according to claim 4, wherein the subpool formation step further comprises:

forming subpools from the aliquots of each sample having an r index identified by a unique integer;

forming subpools from the aliquots of each sample having a c index identified by a unique integer;

forming subpools from the aliquots of each sample having an s index identified by a unique integer; and

PCR testing each of the r, c, and s subpools for a viral indication.

6.   The method according to claim 5 further comprising the steps of:

determining the integer index of each r subpool which returned a positive viral indication;

determining the integer index of each c subpool which returned a positive viral indication; and

determining the integer index of each s subpool which returned a positive viral indicating.

7. The method according to claim 6, wherein the integer indices of the r, c, and s subpools, which returned a positive viral indication, uniquely identify the positive sample when the integer designations are substituted for the dimensional indices r, c, and s to thereby identify the sample from the mapping X_{rcs}.

8. The method according to claim 7, wherein all candidate samples are individually tested if more than one indices identify more than one subpools as having a positive viral indication.

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